



A field demonstration of a microhole coiled tubing drilling rig shows its small footprint. Some can be mounted on a trailer pulled by a standard pickup truck.

Test wells drilled successfully with 'microhole' coiled tubing rig

A SPECIALLY DESIGNED hybrid "microhole" coiled tubing drilling rig recently concluded the drilling of 25 test wells to penetrate a particularly intractable natural gas formation called the Niobrara in western Kansas and eastern Colorado. The effort delivered cost savings of 25%-35% per well drilled compared with conventional drilling equipment. As a result, about 1 TCF of shallow gas that had been bypassed by conventional drilling has been made economic. That volume equates to about 5% of America's annual natural gas consumption.

While coiled tubing drilling rigs are used frequently to service or stimulate production in problematic oil and natural gas wells, operators have only recently begun drilling more "grassroots" exploratory and development wells with them. That effort has been largely limited to higher-cost operating areas such as Alaska and Canada.

The commercial Niobrara drilling program — in which 3,000-ft (1,000-m) wells were drilled in as little as 19 hours, from rig move-in to move-out — followed a US Department

of Energy-funded research project undertaken by **Gas Technology Institute** (GTI) of Des Plaines, Ill. GTI and its partners adapted a conventional coiled tubing rig for drilling exploratory and development wells with ultra-small diameters. The project was funded by the DOE's Microhole Technology Initiative, which seeks to develop tools and techniques for drilling ultra-small boreholes — generally 1 3/4 in. to 4 1/2 in. in diameter — and related downhole micro-instrumentation, using coiled tubing drilling rigs that are small and mobile. Some of these rigs are small enough to mount on a trailer pulled by a standard pickup truck. They use solid tubing coiled around a spool on the trailer to drill boreholes with well casing diameters of less than 4 1/2 in.

According to the DOE, microhole coiled tubing drilling technology has the kind of game-changing potential that could be applied to bypassed resources in thousands of oil and natural gas reservoirs across the US, particularly for shallow reservoirs in mature or even apparently depleted fields. ♠

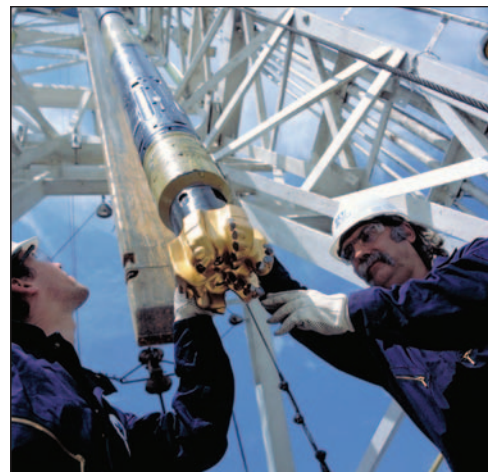
1 millionth foot of hole drilled on INTEQ system

INTEQ ANNOUNCED THAT its AutoTrak X-treme drilling system drilled its 1 millionth foot of hole on 11 December 2006. The system was formally launched in April 2006, and it integrates the third-generation AutoTrak Rotary Closed Loop System with the X-treme motor technology. It was designed to lower drilling costs by increasing drilling rates of penetration and to expand drilling envelopes to enhance production and field recovery.

"This is a tremendous milestone to pass at such an early stage of this product's introduction," said **Martin Craighead**, INTEQ president.

With full 2-way communication with the steering unit at the drill bit, the system is designed to deliver precise wellbore positioning control in the reservoir, resulting in improved well performance.

As of January 2007, the system has been operating in 16 countries and has performed more than 200 jobs. Recent performances include saving more than 28 days of drilling time in horizontal well onshore Italy; reducing drillstring and casing wear by more than 40% offshore India; and accessing trapped reserves in mature North Sea fields.



INTEQ's AutoTrak X-treme drilling system, introduced in April 2006, is already operating in 16 countries and has run over 200 jobs.

Separately, INTEQ recently drilled the longest horizontal distance (1,223 m/ 4,012 ft) ever drilled in Tunisia on an offshore prospect in the Mediterranean. This marked the first deployment of AutoTrak, OnTrak and LithoTrak systems, including density imaging and reservoir navigation services, in Tunisia. ♠